

Remarks/Arguments

Claims 18, 21-23 and 25 remain pending in the Application. A Request For Continued Examination accompanies this paper. Re-examination and reconsideration is requested.

As an initial matter, claims 18, 21-23 and 25 have been rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. Accordingly, the reference to the permeability of 38 cubic feet per minute per square foot has been cancelled from independent claim 18.

Claim 18 has been amended to recite that “(b) coating said backside with a liquid polyurethane ~~dispersion~~ dispersed in water to form a relatively smooth gauged backing layer thickness of about 2.6 – 51.3 mm and ~~drying~~ evaporating the water from said backing layer...”. Support may be found at page 2, lines 19-24, which recites “Typically, a polyurethane dispersion can be prepared by polymerization, in an organic solvent, of reactants, such as polyols and isocyanates, for example, followed by the dispersion of the resultant solution in water and optionally followed by the removal of the organic solvent. The resultant dispersion of polyurethane polymer in water may then be applied to the back of a carpet, in a frothed or unfrothed condition and the water evaporated to form a carpet backing.” Also see page 7, line 10 to page 8, line 14. Accordingly, no new matter has been entered.

Claims 18 and 21-23 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Britt (UAP 3,085,896) in view of Alfter (USP 3,954,537).

Britt appears to be directed at a process of admixing polyurethane foam precursors (polyhydroxyl compounds and polyisocyanates) to effect a chemical reaction and form a polyurethane foam. Britt discloses both “one-shot” and “prepolymer” techniques for forming such foam. Use of a thickening agent in the water phase was also disclosed. A doctor blade may spread the emulsion into a uniform layer. As recited at column 7, line 70 to column 8, line 8, “[a]fter doctoring, the emulsion-coated cloth is passed through a heating zone to *expand* the liquid film into foam and *cure* the resulting foam.” “*Curing* of the foam is accomplished by convection heating at 200-350°F air temperature for one to two hours.” “Cloth emerging from the oven is coated with a flexible, resilient polyurethane foam having a thickness about 8-12 *times* that of the doctored liquid film.”

In other words, Britt is directed at reacting, (see column 7, lines 23-26 which recite “[t]hese emulsions are capable of *reacting with great increase in volume*, to form strong, low density, resilient foams having strong, abrasion-resistant surface skins.”) polyurethane precursors which have been applied to the backside of a cloth and allowing the applied film to expand to some greater thickness.

The present disclosure is directed at forming a liquid polyurethane *dispersion* (a dispersion of *previously reacted* polyols and isocyanates in water) and coating the backside of a cloth with such polyurethane dispersion to form a relatively *smooth gauged backing layer thickness* and *drying* said backing layer. No *reaction is necessary* to form a polyurethane foam, only drying. Thus, a more controllable process is provided both in terms of reactivity (i.e. there is no reactivity) and the ensuing thickness of the layer formed.

Britt does not teach or suggest the application of a liquid polyurethane *dispersion* as described in amended claim 18. Britt, at column 7, lines 18-24, which the Examiner references, is describing the application of an emulsion which *reacts* and *expands* (see line 25). More specifically, Britt, at column, discloses that the prepolymer is mixed with water containing thickener and catalyst followed by reaction and increase in volume. Again, as noted, the presently claimed subject matter does not react (it is a polyurethane dispersed in water). In addition, as the Examiner may appreciate, the claims recite a method “consisting of” the indicated steps, which is believed to preclude the use of the reacting system of U.S. Patent No. 3,085,896.

In addition, claim 18 recites forming a molded plastic substrate using the injection molding process on the backing layer (i.e. the dispersion). As correctly noted at page 3 of the Office Action of August 28, 2007, Britt is silent to forming a molded plastic substrate by injection molding.

Turning to Alfter, this reference appears to be directed at bonding a polyurethane foam *layer* to a layer of cross-linked polyethylene foam under the action of heat. As with Britt, there is no teaching or suggestion that the polyurethane layer is formed from a liquid polyurethane dispersion. At column 2, line 68 to column 3, line 5, Alfter describes laminating a cross-linked, closed-pore polyethylene foam in the IR field or by means of flame at 250°C with an open-pore soft polyurethane foam having a weight per unit volume of 25 kg/m³, also a thickness of 15

mm. Alfter, at column 3, lines 56-58, discloses employing an injection head to foam-back the laminate of PVC on tricot/closed-pore polyethylene foam with “*integral hard polyurethane foam*”. Such a process, as known to those skilled in the art, would not be considered “the injection molding process.” Therefore, it is submitted that Alfter does not make up for the deficiencies of the primary reference, Britt.

As to claims 21-23, since these claims depend from amended claim 18, it is submitted that they are similarly distinguished over the cited art of Britt and Alfter.

Claim 25 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Britt (UAP 3,085,896) in view of Alfter (USP 3,954,537) and further in view of Kobayashi (USP 5,656,675). The deficiencies of Britt and Alfter are discussed above.

Kobayashi appears to be directed at forming a foamable *polypropylene* resin sheet, contacting one side of the foamable sheet with a backing sheet, *irradiating* the foamable sheet to cross-link the polypropylene resin, heating the sheet to cause it to foam, placing a cover sheet on the other side of the foamable sheet and press molding the cover sheet to the foamed sheet. Kobayashi does not teach or suggest applying a liquid polyurethane dispersed in water to form a relatively smooth gauged backing layer thickness of about 2.6 – 51.3 mm on the backside of a cloth, evaporating the water from said backing layer and forming a molded plastic substrate using the injection molding process on said backing layer wherein the backing layer does not allow strike-through of the cloth by the injection molded plastic substrate. Accordingly, it is submitted that Kobayashi does not make up for the deficiencies of Britt and Alfter.

For the reasons noted above, it is believed that the outstanding rejections under 35 U.S.C. § 103 have now been fully considered and traversed.

In consideration of the amendments to the claims and the remarks hereinabove, Applicants respectfully submit that all claims currently pending in the application are believed to be in condition for allowance. Allowance at an early date is respectfully solicited.

In the event the Examiner deems personal contact is necessary, please contact the undersigned attorney at (603) 668-6560.

In the event there are any fee deficiencies or additional fees are payable, please charge

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them (or credit any overpayment) to our Deposit Account No. 50-2121.

Respectfully submitted,

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